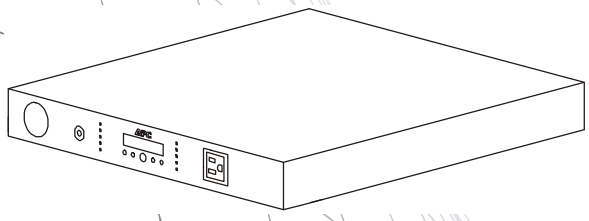
APC
by Schneider Electric

Installation and Operation

G-Type Rack Power Filter
G50NETB2
G50NETB-20A2

120 Vac
15 A
20 A



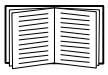
General Information

Product Features

The APC® AV G-Type G50NETB2 and G50NETB-20A2 Rack Power Filters protect high-performance audio and video system equipment from damage due to power surges, spikes, and lightning strikes.

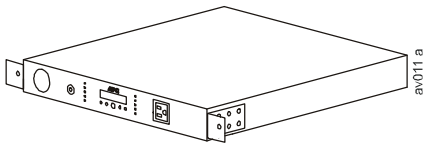
You can manage a Rack Power Filter through the display interface, Web interface, or the command line interface (CLI).

- Load and energy monitoring for all connected devices.
- Voltage, current, and power monitoring.
- Current monitoring for the outlets.
- Three levels of user access accounts: Administrator, Device User, and Read-Only User.
- Independent outlet control.
- Configurable power on/off delays.
- Event and data logging. The event log is accessible by Telnet, Secure CoPy (SCP), File Transfer Protocol (FTP), serial connection, or Web browser (using HTTPS access with SSL, or using HTTP access). The data log is accessible by Web browser, SCP, or FTP.
- E-mail notifications for Rack Power Filter and system events.
- Security protocols for authentication and encryption.

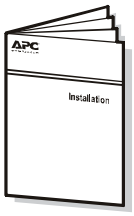


See the Network Management Card Guide on the enclosed CD for detailed information on how to use the unit and the NMC.

Inventory

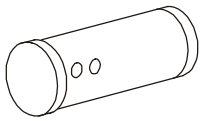


Power filter
(1)



User Manual
(1)

Documentation CD
(1)



Flashlight
(1)

Safety

Electrical Hazard: For indoor use only.

• **Risk of electric shock.** Do not plug into another relocatable power tap.

• **Contains always on receptacles.** To reduce the risk of electric shock, disconnect the unit from the power source before servicing the equipment.

• **Overloading.** Do not overload the wall outlet where this device is being connected. Do not overload this device. Ensure the total load to this device does not exceed that which is listed in the Specifications section of this manual.

• **Power**. Ensure this device is connected to a properly grounded AC power source. Further ensure the device is plugged into a source providing the required 120 Vac. Do not use a plug adapter which defeats the ground pin of the AC plug.

• **Placement**. Do not install this device on any unsteady surface. Do not install this device on any heat source.

• **Water and Moisture**. Do not use this product near any source of water, or in an environment where the relative humidity may exceed 95% (non-condensing)

• **Polarization**. This device has a polarized AC line plug having one grounding pin. This plug will only fit into the wall outlet in one orientation. This is a safety feature. Do not remove the round grounding pin.

• **System Ground Terminal**. The unit provides for the connection of grounding wires from all of your equipment to a central terminal lug. This ground connection eliminates ground loop problems; tie all component grounds to this screw to break any possible ground loops that can cause an audible noise.

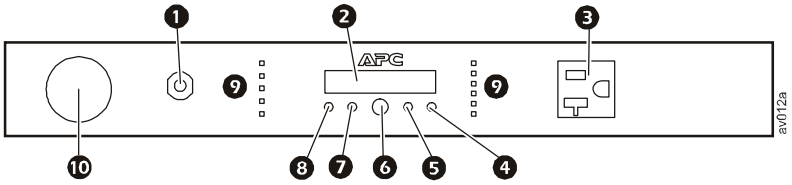
• **Servicing**. There are no user-serviceable components within this device. Removal of the cover from this device may present a shock hazard, and/or void the warranty.

• **Damage Requiring Service**. If any type of damage occurs to this device, immediately disconnect it from the wall outlet. Notify APC Technical Support or Customer Service at once.

• **CAUTION:** Do not install this device if there is not at least 10 meters (30 feet) or more of wire between the electrical outlet and the electrical service panel.

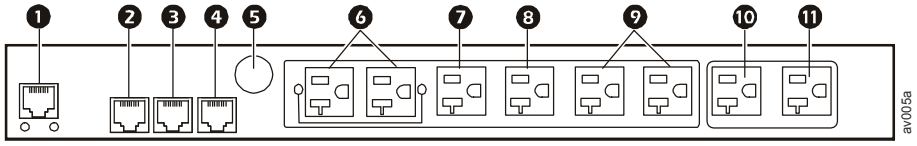
Components

Front view



1. Circuit breaker
2. LCD Display
3. ALWAYS ON outlet
4. DOWN button
5. UP button
6. POWER button
7. SETUP button
8. STATUS button
9. 11 display interface LEDs
10. Removable flashlight

Rear view

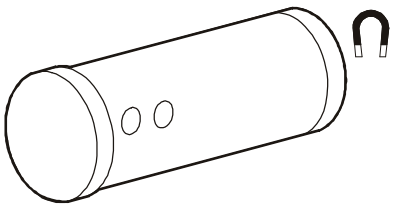


1. Network port
2. Serial port
3. CAN-BUS In port
4. CAN-BUS Out port
5. System Ground
6. UNSWITCHED outlets
7. SWITCHED outlet
8. MASTER outlet / DELAY1 outlet
9. CONTROLLED outlets / DELAY 2 (A & B) outlets
10. CONTROLLED outlets / DELAY 3 outlet
11. CONTROLLED outlets / DELAY 4 outlet

Removable Flashlight

The removable flashlight can be replaced, contact APC to order a replacement.

Note: Charge the flashlight for at least five hours before initial use.

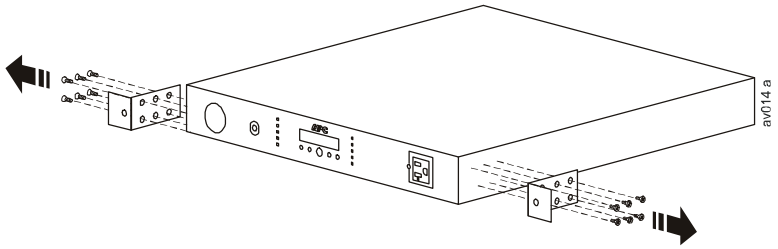


Installation

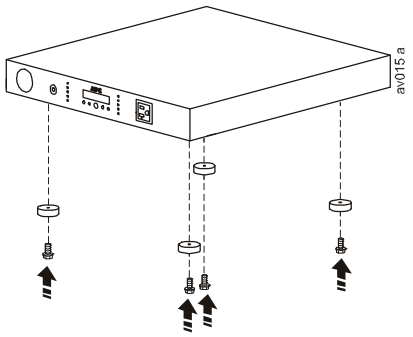
Install the Unit

Install the unit on a flat surface

Remove the mounting brackets.



Attach the stabilizing feet. Attach the stabilizing feet (included) to the bottom of the unit before placing it on a flat surface to avoid scratching the surface and to protect the unit.



Install the unit in a rack or enclosure

Use four screws to secure the mounting brackets to the rails in the rack or enclosure.

Connect Utility Power

Connect the unit to utility power

Note: If the unit is connected to utility power, the unit is actively monitoring input power, but is operating in Standby mode.

Use the utility power cord to connect the unit to utility power. If the unit is functioning properly, the display will illuminate.

Connect Components to the Unit

Power-Saving Master and Controlled outlets

The unit reduces power consumption by disconnecting utility power to devices that are not in use. When a device is in sleep or standby mode, it still uses power; when the unit turns off the power to an outlet, it conserves this power.

1. Before connecting components to the unit, determine which components will utilize the Master and Controlled outlets.
   - Connect a master device such as a TV to the Master outlet.
   - Connect peripheral devices such as amplifiers, DVD players, or sub-woofers to the Controlled outlets.
2. Connect components to the outlets on the back panel of the unit.
3. Configure the unit to recognize the master outlet. See “Configure Master and Controlled outlets” on page 7.

Always On, Unswitched, Switched, and Delayed outlets

Before connecting components to the unit, determine which components will utilize the ALWAYS ON outlets, the UNSWITCHED outlet, the SWITCHED outlet, and the DELAY outlets. Then, connect components to the appropriate outlets. The outlet on the front panel is the ALWAYS ON outlet. The two UNSWITCHED outlets are on the rear panel of the unit.

Always On outlet. The ALWAYS ON outlet supply power to the connected components, even if the unit is turned off. If utility power is lost, and then re-applied to the unit, the component connected to the ALWAYS ON outlet will turn on immediately and return to the status of operation before the power outage.

Switched outlet. The SWITCHED outlet supplies power to the connected equipment while the unit is on. If the unit shuts off, it will not supply power to equipment connected to the SWITCHED outlet. If utility power is lost, and then re-applied to the unit, equipment connected to the SWITCHED outlet will turn on immediately and return to the status of operation before the power outage.

Unswitched outlets. The UNSWITCHED outlets supply power to the connected components, even if the unit is turned off. If utility power is lost and then re-applied to the unit, the components connected to the UNSWITCHED outlets will turn on immediately and return to the status of operation before the power outage. The UNSWITCHED outlets can be turned off through the web interface.

Delay outlets. The unit has five delayed outlets. When the unit is turned on, power is immediately applied to the SWITCHED outlet (power was already being supplied to the ALWAYS ON and UNSWITCHED outlets, even though the unit was off). Then, power is applied to each of the DELAYED outlets in sequence, DELAY 1 first, through DELAY 4.

When the unit is turned off, power is disconnected from the delayed outlets in reverse order.

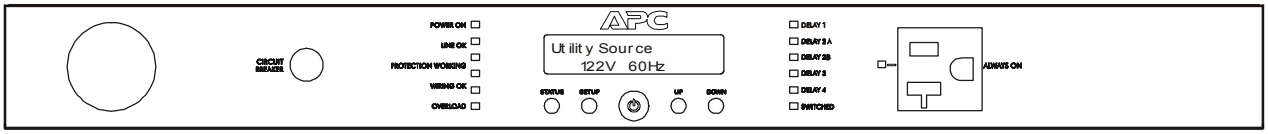
Use the display interface to customize the delay times.

Operation

Basic Functions

Note: The LCD display interface screen and LEDs can be dimmed, using the Setup menu. Press any button on the front panel of the unit to illuminate the display screen and the LEDs.

Front panel buttons



Use the display interface on the front of the unit to configure and operate the unit.

Power. Push to apply power to the unit or to shut off power to the unit.

Status. Push to display the current status of the unit, including the current input/output voltage.

Setup. Push to scroll through the setup menus.

Up/Down. Push to change values (Setup menu) and browse menu pages (Status menu).

Display interface LEDs

There are eleven LEDs on the display interface.

LED	Illuminated	Not Illuminated
POWER ON	The unit is supplied with utility power.	There is no input utility power.
LINE OK	The utility power is within acceptable range, 92 V to 140 V.	The input voltage from utility power is outside the acceptable range and the unit has disconnected from utility power to protect the connected equipment.
PROTECTION WORKING	The unit is protecting all connected equipment.	The unit is not providing power protection. See Troubleshooting and contact APC Technical Support immediately.
WIRING OK	The unit is functioning properly.	There is a problem with the building wiring. Contact a certified electrician.
OVERLOAD	The unit is overloaded. Disconnect some connected components. Contact APC Technical Support.	The unit is functioning properly.
DELAY 1	Power is being supplied to DELAY1.	Power is not being supplied to DELAY1.
DELAY 2A	Power is being supplied to DELAY2A.	Power is not being supplied to DELAY2A.
DELAY 2B	Power is being supplied to DELAY2B.	Power is not being supplied to DELAY2B.
DELAY 3	Power is being supplied to DELAY3.	Power is not being supplied to DELAY3.
DELAY 4	Power is being supplied to DELAY4.	Power is not being supplied to DELAY4.
SWITCHED	Power is being supplied to SWITCHED.	Power is not being supplied to SWITCHED.

Configure the Unit

Set the Language

Select a language. Push the SETUP button until the Language menu is displayed. Select English, French, or Spanish.

Configure the brightness of the display. To alter the brightness of the LCD display screen, push SETUP one time and select a desired brightness level.

Sequence Delay outlets

Configure the delay options so that the DELAY outlets apply power in sequence, instead of all at one time.

Push SETUP until the delay menu screen appears. Use the UP and DOWN buttons to change the number of seconds of delay. When finished, push SETUP again to move to the next delay screen.

Configure Master and Controlled outlets

Enable and Disable the Power-Saving feature. Use the Setup menus and navigate to **Green Functions** to enable or disable the feature.

Setting the threshold. The amount of power used by a device in Sleep or Standby mode varies between devices. It may be necessary to adjust the threshold at which the MASTER outlet signals the CONTROLLED outlets to shut down. Use the Setup menus and navigate to **Power Threshold** to change the power threshold of the master outlet.

View status of the unit

Push the STATUS button until the input source voltage and frequency screen appears.

Push the STATUS button to display the output current and percentage.

You can also view APC Technical Support contact information, the model and serial number of the unit, the firmware version, and the last three faults registered by the unit using the STATUS menus.

Calculate power savings and money savings

Enter your utility rate. The G50 unit can calculate the power you save when using the green MASTER and CONTROLLED outlet feature.

1. Use the Setup menus, scroll to the menu screen **Green Function** and ensure the function is set to Enable.
2. Scroll to the next screen, **Utility Rate.** Use the Up and Down arrow keys to enter the rate you pay for electrical power in kWh. (Note that the unit will only display the savings in dollars, but can calculate any currency.)

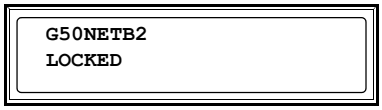
View energy and money savings. Go the Status menu **Energy Saved** to view the amount of energy saved by the unit. Scroll to the next menu, **Money Saved** to view the cost savings.

Current Sensing outlets

The unit can measure the amount of power used by the equipment connected to the delayed outlets.

Lock the unit

The unit can be locked to prevent unwanted access. To lock or unlock the unit, push STATUS and DOWN for three seconds.



Shut down the unit

Push and hold the POWER button.

Display Interface Menus

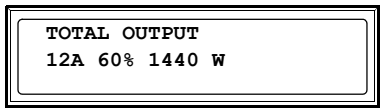
Status menu

The Status menu shows the overall status of the unit and of each outlet on the unit. Push the STATUS button to move to the next screen. Use the arrow keys to scroll up and down.

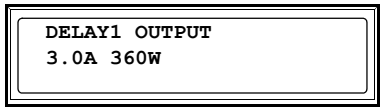
Note: The menus shown in this manual are for reference only. Information displayed on the unit may be different than shown here.

Utility Source, Voltage and Frequency.

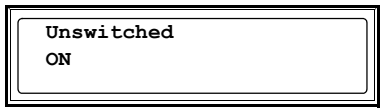
Total Output.



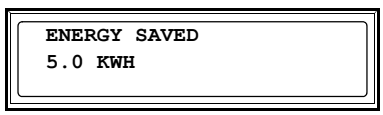
Delay Output. The next screens will show the output from each of the DELAY outlets, DELAY1, DELAY2A, DELAY2B, DELAY3, and DELAY4.



Unswitched ON.

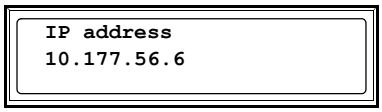


Energy Saved.

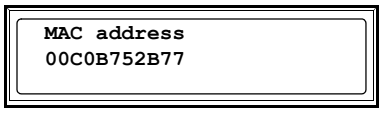


Money Saved.

IP address.

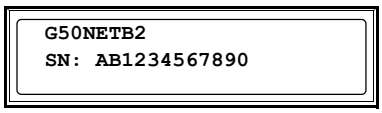


MAC address.

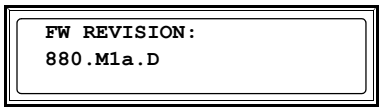


Contact Information.

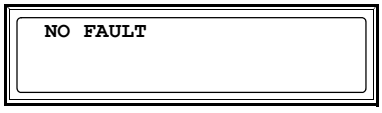
Model and Serial Number.

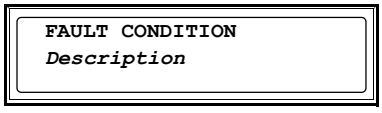


Firmware version.



Recent Faults. The screen will either display “No fault” or it will report any recent faults on the unit and give a brief description. Contact APC AV Customer support.



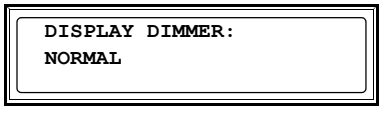


Setup menu

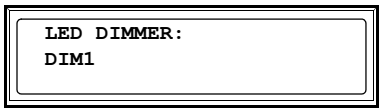
Use the Setup menus to configure the unit. There are nine setup menus. Push the SETUP button to move to the next screen. Use the arrow keys to scroll up and down.

Note: The menus shown in this manual are for reference only. Information displayed on the unit may be different than shown here.

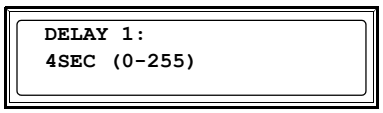
LCD dimmer. Set the brightness of the display.



LED dimmer. Set the brightness of the LEDs.

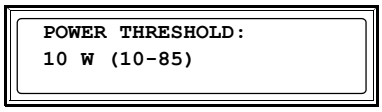


Delay1-Delay4. Select the number of seconds for the delay for DELAY outlets 1, 2A, 2B, 3, and 4.

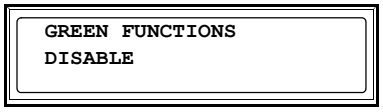


Power Threshold. The amount of power used by a device in Sleep or Standby mode varies between devices. It may be necessary to adjust the threshold at which the Master outlet signals the Controlled outlets to shut down.

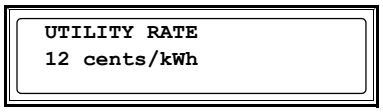
1. Ensure a master device is connected to the Master outlet. Put that device into Sleep or Standby mode, or turn it OFF.
2. Press STATUS and hold for three seconds.
3. The G50 will now recognize the standby power threshold of the Master device and save it as the new threshold setting. Use the UP or DOWN arrow key to adjust the power threshold.



Green Function. Use the Up and Down arrow buttons to enable or disable the Green Function. The Green Function allows you to utilize the MASTER and CONTROLLED outlets. When the device plugged into the MASTER outlet goes into Sleep or Standby mode, or turns off, the equipment that is connected to the CONTROLLED outlets will also turn off, saving electricity.

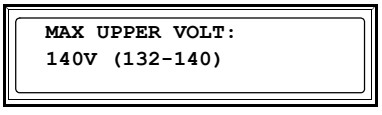


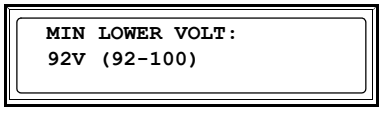
Utility Rate. Enter electrical power utility rate in cents/kWh (USD only). The unit will use this to calculate the savings accumulated when using the green function MASTER and Controlled outlets.



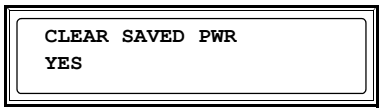
Contact Information. This screen can be customized to include the contact information of the A/V dealer or installer. Push the STATUS button to move the cursor to the next letter and use the Up and Down arrow buttons to scroll to the appropriate letter.

Maximum and Minimum Voltages. Set the voltage range in which the unit should normally operate. The unit will protect connected equipment from high and low voltages that are not safe for operation.



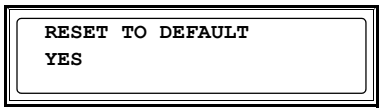


Clear Saved Power. Reset the counter for the amount of power that has been saved by the unit.



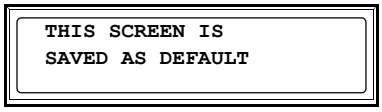
Language. Select the language for the display: English, French, or Spanish. Push SETUP to go to the next screen, RESET TO DEFAULT.

Restore default settings. Select YES or NO to restore the default settings.



Save screen as default

To save a screen as the default, push STATUS for three seconds.



Troubleshooting

The unit will not turn on

There is no input power, or insufficient input power from the wall outlet.	Use a voltmeter to check the output of the wall outlet. Use a device that is known to work properly to check the outlet. **Note:** The unit will not turn on if the input utility power is out of the acceptable range.
A circuit breaker has been tripped.	• Check the building circuit breakers and the unit's circuit breaker. If the circuit breaker on the unit has been tripped, the center post will protrude from the unit. To reset the breaker, push the center post into the unit. If it trips again, unplug one of the components plugged into the unit and reset the breaker. • G50NETB2 is rated for 15 Amps/G50NETB-20A2 is rated for 20 Amps, however, the National Electric Code (NEC) dictates that any home circuit should not be loaded to more than 80% of its rating. **Note:** If the breaker is tripped again after trying this solution, contact APC Technical Support.
Power is not supplied to some outlets.	Power to the CONTROLLED outlets has intentionally been turned off.
The CONTROLLED outlets are not supplying power, even though the master device is not in sleep mode.	The MASTER Outlet threshold may be incorrectly set.

The Overload LED is illuminated

The unit is overloaded. The **Overload** LED is flashing.	The **Overload** LED on the front of the unit will illuminate red if the unit is overloaded. Reduce the load by disconnecting one or more components from the back of the unit. When the load is below 95%, the LED will stop flashing.

The Wiring OK LED is not illuminated

• The wall outlet polarity is reversed. • The neutral wire is overloaded. • The earth ground is not connected at the wall outlet.	Contact an electrician to inspect the building wiring. **WARNING:** Do not operate the unit if any of these conditions exist. The unit may not be providing surge protection.
The unit is on, but none of the LEDs are illuminated.	Push UP or DOWN several times. The LEDs should illuminate. If they do not illuminate, contact APC Technical Support.

Specifications

	G50NETB2	G50NETB-20A2
Input/Output		
Input/Output Voltage	Nominal 120 V	Nominal 120 V
Input/Output Current	15 A	20 A
Frequency	50/60 Hz	50/60 Hz
Receptacle Types	NEMA 5-15R	NEMA 5-20R
Number of Outlet Receptacles	9	9
Dimensions (HxWxL)	4.34 cm x 24 cm x 43.5 (1.71 in x 9.45 in 17.13 in)	4.34 cm x 24 cm x 43.5 (1.71 in x 9.45 in 17.13 in)
Power Cord	2.4 m (8 ft.) right angle NEMA 5-15P	2.4 m (8 ft.) right angle NEMA 5-20P
Utility Surge Performance		
EMI/RFI Filtering	50 db 150 kHz to 1 MHz 40 dB to 30 MHz	50 db 150 kHz to 1 MHz 40 dB to 30 MHz
Environmental Performance Specifications		
Operating temperature	0º – 40ºC (32º – 104ºF)	0º – 40ºC (32º – 104ºF)
Storage temperature	-15º – 45ºC (5º – 113º F)	-15º – 45ºC (5º – 113º F)
Net weight	4.4 kg (9.7 lbs)	4.6 kg (10.1 lbs)
Relative Humidity	0–95% non-condensing	0–95% non-condensing
Safety Agency Approval		
UL1449, UL1363, cETLus Listed, FCC Part 15 Class B		
Contact Information		
www.apcav.com or 1-888-88APCAV		

Contact APC Technical Support

For technical support, go to **www.apcav.com** or call 1-888-88APCAV (1-888-882-7228).

Warranty

APC warrants the G50NETB2 and the G50NETB-20A2 (excluding the removable flashlight) to be free from defects in materials and workmanship under normal use and service for the lifetime of the original purchaser. APC warrants the removable flashlight to be free from defects in materials and workmanship under normal use and service for one year from the date of purchase. APC's obligation under this warranty is limited to repairing or replacing, at its sole option, any such defective products. To obtain service under warranty you must obtain a Returned Material Authorization (RMA) number from APC or an APC Service Center with transportation charges prepaid and must be accompanied by a brief description of the problem and proof of date and place of purchase. This warranty applies only to the original purchaser.

APC Worldwide Customer Support

Customer support for this or any other APC product is available at no charge in any of the following ways:

- Visit the APC Web site to access documents in the APC Knowledge Base and to submit customer support requests.
  - **www.apc.com** (Corporate Headquarters)
    Connect to localized APC Web sites for specific countries, each of which provides customer support information.
  - **www.apc.com/support/**
    Global support searching APC Knowledge Base and using e-support.
- Contact the APC Customer Support Center by telephone or e-mail.
  - Local, country-specific centers: go to **www.apc.com/support/contact** for contact information.

For information on how to obtain local customer support, contact the APC representative or other distributors from whom you purchased your APC product.

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